

Amendments to the Specification:

Replace the paragraph beginning at page 22, line 19, with the following amended paragraph:

"Fragments of obesity and/or diabetes related variants nucleic acid sequences" – a partial sequence of any one of SEQ ID NO:1 to SEQ ID NO:21 which includes the regions which contain the variation in nucleotides between the variant and the original sequences. These regions (in the amino acid level) are as depicted in the above Table 1.

Replace the paragraph beginning at page 27, line 26, with the following amended paragraph:

The present invention relates to isolated nucleic acid molecules having a sequence selected from the group consisting of: SEQ ID NO: 2-4; 6-9; 11; 13-18; 20-21 and fragments thereof comprising at least 20 nucleotides. The present invention relates to isolated nucleic acid molecules comprising SEQ ID NO: 2-4; 6-9; 11; 13-18; 20-21 and isolated nucleic acid molecules comprising fragments of SEQ ID NO: 2-4; 6-9; 11; 13-18; 20-21 comprising at least 20 nucleotides.

Please delete the paragraphs beginning at page 42, line 13 and ending at page 43, line 15.

Please insert the following paragraphs at page 56, line 11:

EXAMPLE 1 - Separation

Sf-9 cells are infected with Obesity and/or diabetes variants expressing baculovirus (AC-obesity and/or diabetes variant) comprising the amino acid sequence of SEQ ID NO:23 to SEQ ID NO:25 or SEQ ID NO:27 to SEQ ID NO:30 or SEQ ID NO:32 or SEQ ID NO:34 to SEQ ID NO:39 or SEQ ID NO:41 to SEQ ID NO:42 at MOI of 2. The cells are grown in 28 °C at continuous shaking (90 rpm). At

60 hours post-infection (hpi), the medium is collected and cells are separated from the medium by centrifugation at 5000 rpm for 5 minutes. 10 mL medium is separated using cation exchange chromatography with a SP-Sepharose column. The column is equilibrated with PBS pH 6.5, and, following loading of the sample on the column, the column is washed with PBS to elute the unbound proteins (flow through fraction). Elution is done with increasing concentration of NaCl at a flow rate of 2 mL/min (5% NaCl/min).

The different fractions are subjected to SDS-PAGE electrophoresis and to western blotting using anti-Obesity and/or diabetes variant antibody.

EXAMPLE 2- Secretion

Sf-9 cells are infected with Obesity and/or diabetes variants expressing baculovirus (Ac-obesity and/or diabetes variant) at MOI of 2. The cells are grown at 28 °C at continuous shaking (90 rpm), and 1 mL samples are collected at 24, 48, and 60 hours post-infection (hpi). Following centrifugation, cell pellets are lysed with lysis buffer (50 mM Tris pH 7.5, 1% triton X100, and protease inhibitor cocktail) at 4 °C for 30 min and sonicated for 30 seconds. The sample is centrifuged for 10 minutes at 14000 rpm and the supernatant is designated Pellet. 40 µL of the Pellet preparation and of the medium (Designated Medium) are supplemented with sample buffer and are electrophoresed on a 15% SDS-PAGE. Following electrophoresis, the gel is subjected to a semi-dry protein transfer onto a nitrocellulose membrane. The membrane is incubated with anti-Obesity and/or diabetes variants antibody for 2 hours and with secondary anti-rabbit antibody for an additional 1 hour.

Detection of the signal is done using a commercial western blot detection kit.

Please add after page 61 the attached Sequence Listing.